REMARKS

Claims in the Case

Claims 1 and 2 are being cancelled. Claims 3-26 are being added. Claims 3-26 are currently pending in the case.

Issued Patents in Cases with Related Subject Matter

In the Information Disclosure Statements filed in the parent cases, Applicant has previously disclosed a number of applications that are related in subject matter. It is noted that the following are patents that have now issued with respect to these cases: U.S. 6,137,372; U.S. 6,147,567; U.S. 6,150,891; U.S. 6,167,245 (grandparent to this case); U.S. 6,233,441; U.S. 6,226,506; U.S. 6,304,146; U.S. 6,308,055; U.S. 6,311,050; U.S. 6,317,006; U.S. 6,327,463; U.S. 6,549,764; U.S. 6,483,390; U.S. 6,549,765; U.S. 6,388,536; U.S. 6,574,288.

Amendment to the Specification and Drawings

Applicant has amended the Specification and the Drawings to correct typographical errors noted during preparation of formal drawings. Replacement sheets and annotated sheets of drawings have been enclosed. Formal drawings have also been submitted. Applicant respectfully requests that these amendments be entered.

New Claims 3-26 Are Patentable Over Maddy, Crawford and/or Reeser

The Final Office Action in the parent case rejected then claims 3-8 and 30-34 as obvious over U.S. Patent Number 5,334,952 (Maddy) in view of U.S. Patent No. 4,771,248 (Crawford) and U.S. Patent No. 5,856,763 (Reeser). Applicant respectfully submits that new claims 3-26 are patentable over Maddy, Crawford and Reeser, either alone or in combination.

The Final Office Action argued that Maddy discloses "a phase detector (203) having a plurality of analog output signals" and that Crawford discloses "controller (70) with plurality of control signal at least one the control signal control the VCO 40 without being combined." [Final Office Action, page 3.] The Final Office Action concluded that it would be obvious to modify Maddy "in controlling VCO without combining with other control signals" in view of the teachings of Crawford.

The phase detector of Maddy, however, provides a single output signal. It does not have a plurality of different analog output signals. As stated in Maddy, "[p]hase detector 203 generates **a signal**

on line 221 that is proportional to the phase difference between the divided reference signal on line 219 and the divided output signal on line 226." [Maddy, col. 4, lns. 39-42 (emphasis added).] Thus, Maddy teaches only a phase detector having **a single** output signal based upon a phase difference of its input signals.

Crawford has a sample/hold phase detector 30. However, this sample/hold phase detector 30 provides only a single output signal FT. [Crawford, FIG. 1 and FIG. 6.] Thus, Crawford teaches only to have a sample/hold circuit provide **a single** output signal.

Claim 1 requires a phase detector that "concurrently provides a plurality of different analog output signals." And claim 1 requires a sample and hold circuit that samples and holds each of these different analog output signals to provide "the plurality of different control signals for the controllable oscillator." In short, as set forth in claim 1, both the phase detector and the sample and hold circuit are each required to provide **a plurality** of different output signals that are ultimately used to provide different control signals to the controllable oscillator. Maddy and Crawford, whether taken alone or in combination, do not teach or suggest such a combination.

Claim 12 requires in part a controllable oscillator having an output frequency dependent upon a plurality of different analog control signals, phase difference control circuitry configured to concurrently provide the plurality of different analog control signals, and a plurality of non-varactor diode capacitance circuits connected in parallel that are controlled by the plurality of different analog control signals. Maddy and Crawford, whether taken alone or in combination, do not teach or suggest such a combination.

Claim 20 is a method claim that requires controlling an output frequency for a controllable oscillator utilizing a plurality of different analog control signals, detecting a phase difference to concurrently provide the plurality of different analog control signals as outputs, and utilizing a plurality of non-varactor diode capacitance circuits connected in parallel that are controlled by the plurality of different control signals. Maddy and Crawford, whether taken alone or in combination, do not teach or suggest such a combination.

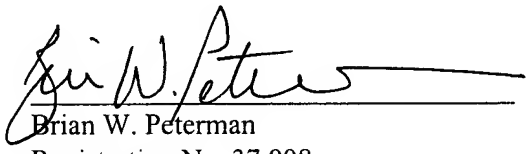
Applicants respectfully assert, therefore, that Maddy, Crawford and Reeser considered either alone or in combination do not teach or make obvious the limitations required by new claims 3-26.

Conclusion

In view of the foregoing, it is respectfully submitted that pending new claims 3-26 are in condition for allowance. Accordingly, favorable reconsideration and Notice of Allowance are respectfully requested.

The Examiner is invited to contact the undersigned at the phone number indicated below with any questions or comments, or to otherwise facilitate expeditious and compact prosecution of the application.

Respectfully submitted,



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